

GUIDELINES FOR THE ESTABLISHMENT OF SECTOR SPECIFIC STANDARDIZED BASELINES

Standardized Baseline Workshop

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OVERVIEW

- **Definitions**
- **Applicability**
- **Four types of measures**
- **Level of aggregation**

DEFINITIONS

- **Output**
 - **Goods or services**
 - **Comparable quality, properties, and application areas**
 - **e.g. clinker, lighting, residential cooking**
- **Sector**
 - **A segment of a national economy**
 - **Delivers defined output**
 - **Characterized by output**
- **Positive list**
 - **List of emission reduction activities**
 - **Automatically additional**
 - **Location, technology/measure, size**

DEFINITIONS

Measure

- **Broad class of GHG emission reduction activities**
- **Possessing common features**

- **Four types currently covered:**
 - **Fuel and feedstock switch**
 - **Switch of technology with or without change of energy sources (including energy efficiency improvement)**
 - **Methane destruction**
 - **Methane formation avoidance**

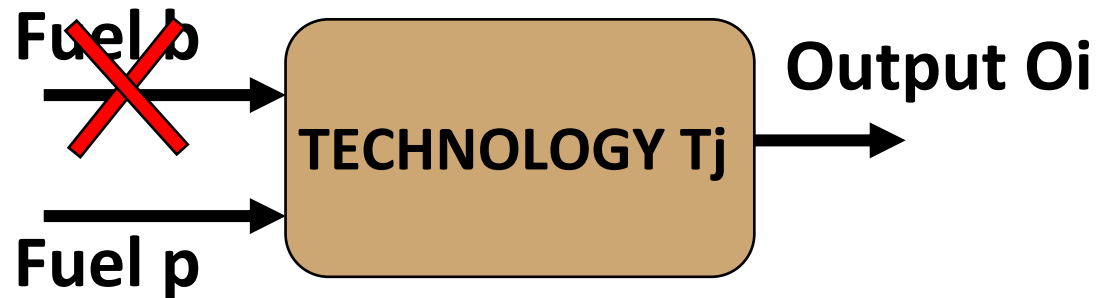
APPLICABILITY

- **Sectors**
- **Stationary sources, but not A/R**
- **Most types of project activities**
- **Standardized baselines**
 - **For a country or a group of countries**
 - **Demonstrate additionality: positive lists**
 - **Identify baseline scenario**
 - **Determination of baseline emissions**

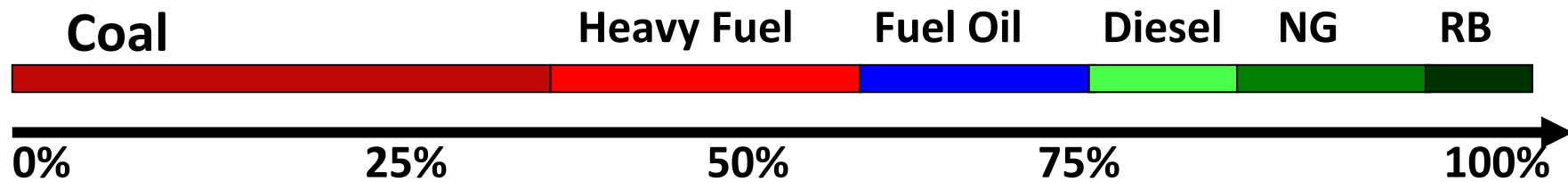
Steps for establishing standardized baselines

- Identify host country, output, sector and measure**
- Establish additionality criteria (e.g. positive lists)**
- Identify the baseline**
- Determine the baseline emission factor**

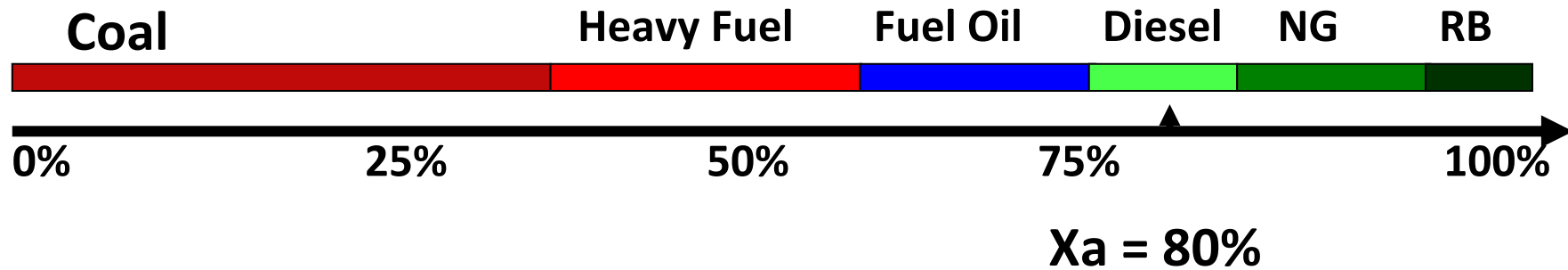
MEASURE 1: FUEL/FEEDSTOCK SWITCH



- Define sector (product O_i) and technology T_j
- Identify fuels/feedstocks for T_j
- Identify corresponding percentages of output
- Rank the carbon intensity of the fuels/feedstocks



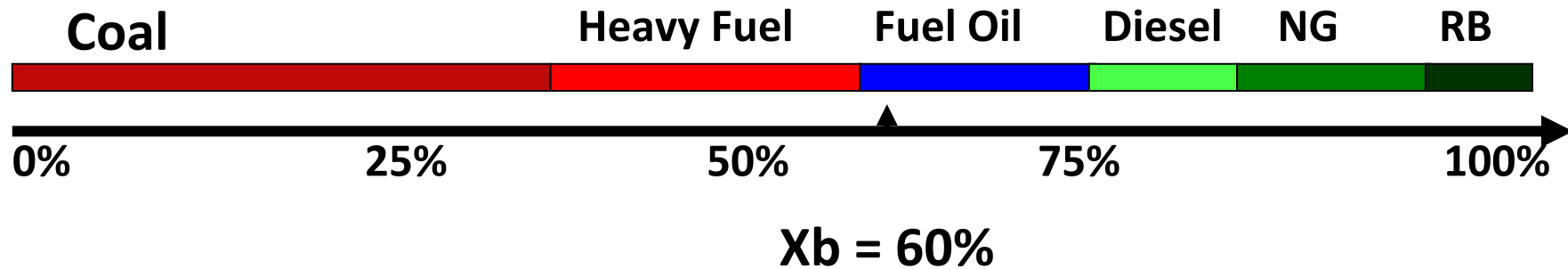
FUEL/FEEDSTOCK SWITCH - additionality



- Identify the fuels /feedstock with higher CEFs and contributing to production of $X_a\%$ of the output O_i of the sector based on technology T_j .
- The positive list for additionality demonstration:
 - Cleaner than the fuels making up $X_a\%$
 - NG and RB are eligible
 - Check their commercial attractiveness and barriers



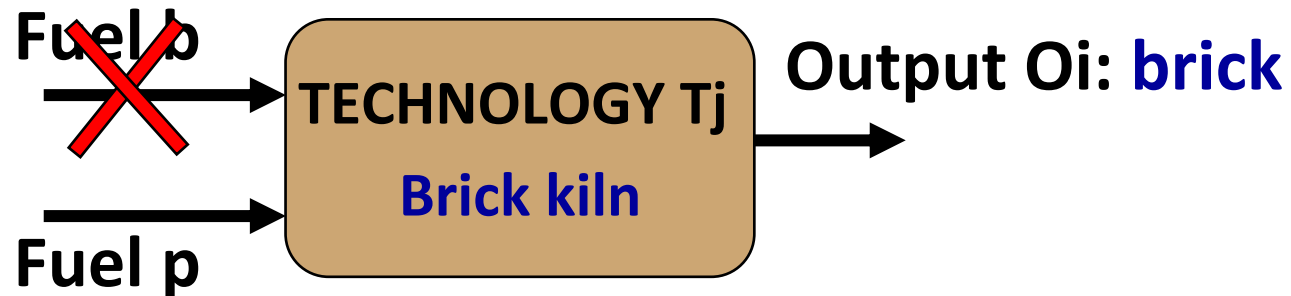
FUEL/FEEDSTOCK SWITCH – baseline fuel



- Identify the fuels /feedstock with higher CEFs and contributing to production of $X_b\%$ of the output O_i of the sector based on technology T_j .
- Baseline fuel:
 - Cleanest among the fuels making up $X_b\%$
 - Fuel oil
- Baseline emission factor
 - IPCC fuel oil emission factor (t CO₂ / t fuel oil) x Design specific fuel oil consumption (t fuel oil / t O_i)

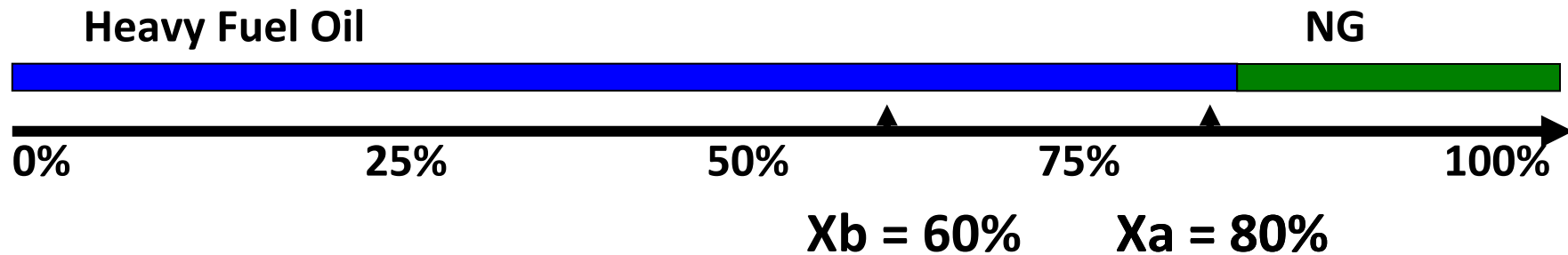


FUEL SWITCH – a case study from Egypt



- Brick producing sector
- Heavy fuel oil, 75.5 tCO₂/TJ, 82% brick factories
- Natural gas, 54.3 tCO₂/TJ, 18% brick factories
- Assume that all brick factories are of similar production capacities

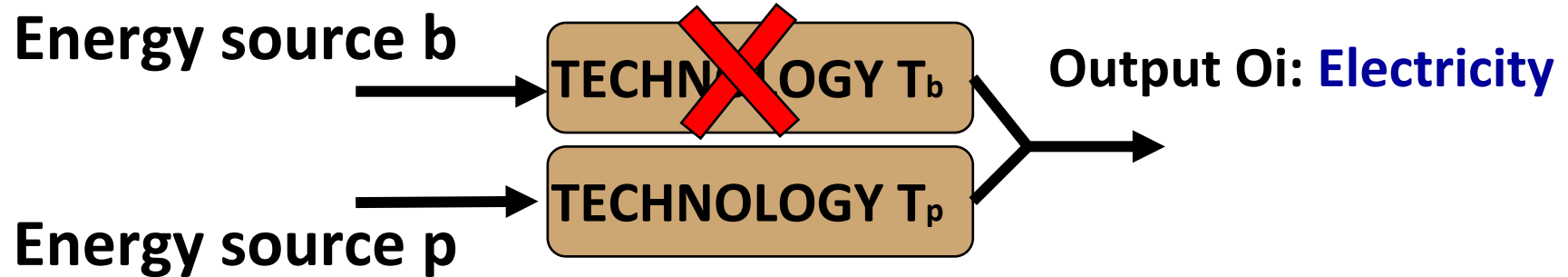
FUEL SWITCH – a case study from Egypt



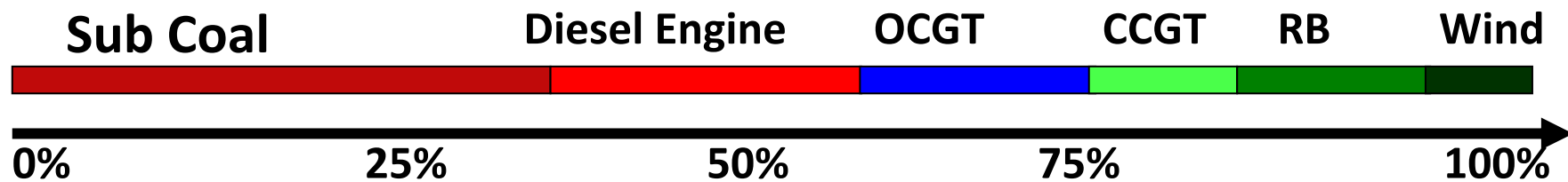
- Eligible for the positive list of fuel switch at brick kilns in Egypt: natural gas
- Baseline fuel: heavy fuel oil



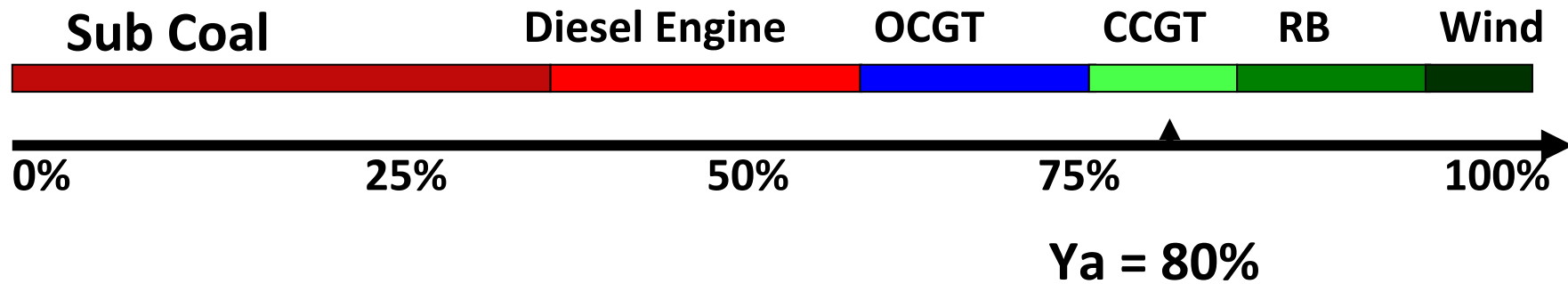
MEASURE 2: TECHNOLOGY SWITCH



- Define sector (product O_i)
- Identify technology with or without energy source
- Identify corresponding percentage of output
- Rank the carbon intensity of the technologies



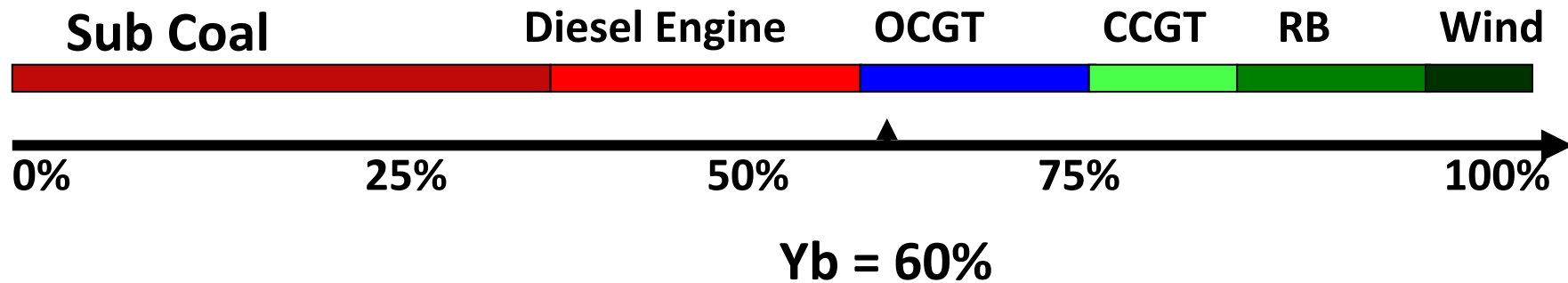
TECHNOLOGY SWITCH - Additionality



- Identify the technologies with higher CEFs and contributing to production of $Y_a\%$ of the output O_i of the sector.
- The positive list for additionality demonstration:
 - Cleaner than the technologies making up $Y_a\%$
 - Wind and RB are eligible
 - Check their commercial attractiveness and barriers

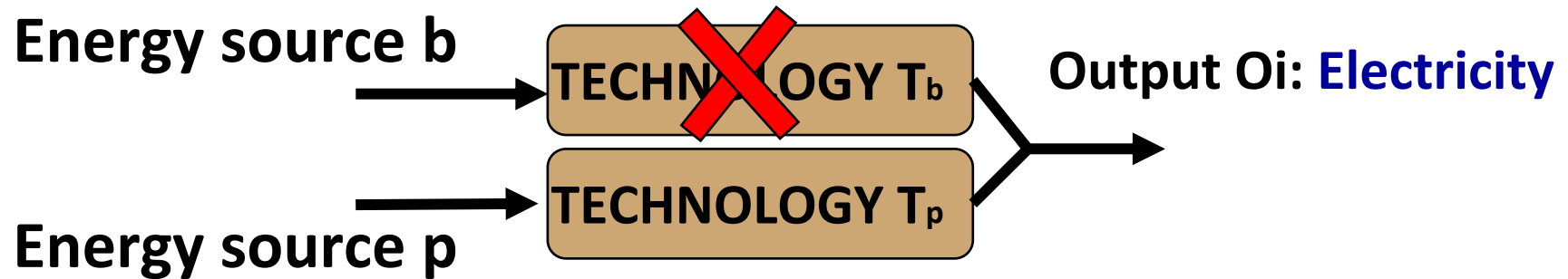


TECHNOLOGY SWITCH – baseline technology



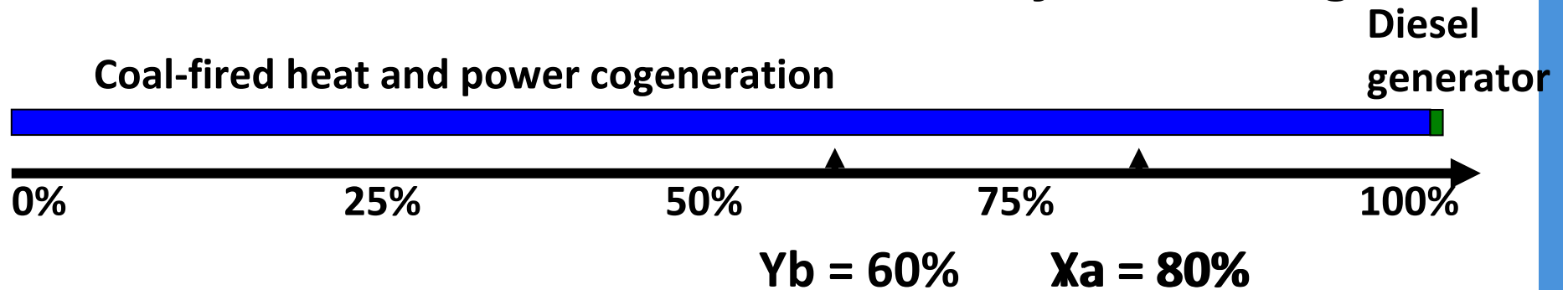
- Identify the technologies with higher CEFs and contributing to production of $Y_b\%$ of the output O_i of the sector
- Baseline technology:
 - Cleanest among the technologies making up $Y_b\%$
 - OCGT
- Baseline emission factor
 - IPCC natural gas emission factor (t CO₂ / t natural gas) x Design specific natural gas consumption (t natural gas / t O_i)

TECHNOLOGY SWITCH – a case study from Mongolia



- Power sector
- Coal fired heat and power cogeneration, 98% electricity
- Diesel generator, 1.5% electricity
- Renewable (mostly hydro), 0.5% electricity

TECHNOLOGY SWITCH – a case study from Mongolia



- Eligible for the positive list of technology for power generation in Mongolia: diesel generator and hydro
- Baseline technology: coal fired heat and power cogeneration

MEASURE 3: METHANE DESTRUCTION

- **Additionality**
 - **If the level of CH₄ destruction undertaken by a measure is higher than what is mandatory and enforced, the measure of destruction is additional.**
- **Baseline**
 - **The baseline level of destruction is the mandatory and enforced level of destruction.**
- **0% for all the 8 countries which participated in the survey for this measure**

MEASURE 4: METHANE FORMATION AVOIDANCE

- **Additionality**
 - **If the proposed disposal and treatment method is not mandatory and enforced and is less attractive, then the measure is additional.**
 - **Examples: landfill aeration, composting, use of agriculture residues**
 - **All face technology barrier in the 8 countries which participated in the survey for this measure.**
- **Baseline**
 - **The baseline is the most commonly used disposal and treatment method.**
 - **Examples: agricultural residues are burned in the field; municipal waste is landfilled.**



LEVEL OF AGGREGATION

- **Generally one sector in one country**
- **Further aggregation**
 - **From homogeneity**
 - **Geographically, may be expanded to a group of countries**
- **Disaggregation**
 - **From heterogeneity**
 - **Geographically, may be restricted to a region within a country (e.g. regional grid)**
 - **Availability of certain fuels/feedstocks**

